

Fatality: Overpressure of an explosion-proof enclosure

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The International Association of Oil & Gas Producers (IOGP) has published an [alert](#) regarding an incident in which an engineer was fatally injured.

IOGP Life Saving Rules:



What happened?

The engineer was killed when he removed the cover on an explosion-proof enclosure, as part of a routine task. The threaded cover, measuring 35 cm across and weighing around 6 kg, was forcefully propelled from the enclosure as the engineer unscrewed it, inflicting fatal head injuries.

What went wrong? What were the causes?

- Pressure built up inside the enclosure from leaking sample gas or instrument air components.
- The enclosure was not equipped with an external indicator to indicate the pressure inside.
- There was no means to relieve internal pressure in the enclosure.

What lessons were learnt? What actions were taken?

IOGP identify the following lessons:

- Recognise the potential hazard of trapped pressure in explosion-proof electrical enclosures from all sources of energy entering the enclosure.
- Identify explosion-proof enclosures which are susceptible to trapped pressure scenarios and do not have pressure indication or pressure relief protection.
- Work with equipment manufacturers to develop a mitigation plan that addresses the trapped pressure situation while still maintaining the electrical certification of the identified enclosures.

The incident can be found on the IOGP [website](#).

Members may wish to review the following fatal incidents; it will be seen that the sudden and unplanned release of stored pressure is a high potential

incident and frequently leads to serious injury and fatalities:

- Fatality: Pressure build-up leading to sudden release of mechanical plug
- Fatality during pressure test
- Explosion causing fatal injury during maintenance of Metocean buoy

IMCA Safety Flashes summarise key safety matters and incidents, allowing lessons to be more easily learnt for the benefit of the entire offshore industry.

The effectiveness of the IMCA Safety Flash system depends on the industry sharing information and so avoiding repeat incidents. Incidents are classified according to IOGP's Life Saving Rules.

All information is anonymised or sanitised, as appropriate, and warnings for graphic content included where possible.

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